Proceeding
3rd International Nursing Conference
Community Health Empowerment: Step Up Action Attaining Sustainable Development Goals
Faculty of Nursing University of Jember
November 4-5, 2017 Royal Hotel Jember, East Java-Indonesia
ISBN: 976-602-5617-11-9

THE EFFECT OF MOTHER PERCEPTION AND FAMILY SUPPORT PROGRAM ON IMPROVING ANEMIA RELATED KNOWLEDGE AMONG PREGNANT WOMEN

[1]Rukmaini, [2]Milla Evelianti Saputri, [3]Aisyiah

[1]Midwifery Department, Faculty of Health Sciences, Universitas Nasional, Jakarta;
email:rukma.z@gmail.com
[2]Basic Science Nursing Department, Faculty of Health Sciences, Universitas Nasional, Jakarta
[3]Community Health Nursing Department, Faculty of Health Sciences, Universitas Nasional, Jakarta

ABSTRACT

Background: Anemia during pregnancy was a health problem in the world including in Indonesia and it caused some negative impacts both for mothers and their babies. To reduce prevalence of anemia during pregnancy could be carried out by giving family support to improve the knowledge regarding anemia. **Methods**: A quasi-experimental study, two groups, pre – and post-test design was used in this study. The sample of this were pregnant women. The study was conducted on December 2016 to September 2017 at the Cikedal Public Health Center, Pandeglang District, Indonesia. **Results**: There was statistically significant improve in anemia knowledge among pregnant women in the experimental group (p<0.05). **Conclusions**: It is recommended that mother perception and family support program could be implemented in pregnant women to prevent anemia by improving applying this program.

Keywords: Anemia, Pregnancy, Family support, Knowledge, Perception

INTRODUCTION

Anemia among pregnant women is the global health problem especially in developing countries Anemia during pregnancy is a condition when haemoglobin (Hgb) level < 11 g/dl (Alem et al., 2013). In Indonesia, there were 38% -71.5% pregnant women had anemia (Fuady, 2013). Anemia during pregnancy called "potential danger to mother and child". It means that anemia is the direct cause of maternal death (Manuaba, 2010) and it can cause the negative impacts on pregnancy. A previous study stated that anemia during pregnancy is the main cause of premature, low birth newborns, physically growth disorder, and post-partum bleeding (Wuryanti, 2010). In addition, A study was conducted by

Haider, Yakoob, and Bhutta (2011) revealed that anemia during pregnancy can cause sepsis, spontaneous abortion, and thromboembolism among pregnant women. These are influence on the cognitive development and psychiatric disorder among children and teenagers (Chen et al., 2013).

Prevention to reduce prevalence of anemia in pregnant women can be done by delivering the iron supplement of 90 tablets during pregnancy (Fuady, 2013). Iron supplement is the main factor to improve Hgb during pregnancy and it can be consumed by pregnant women every day. However, majority of participants did not obedient to consume iron supplement due to some factors such as lack of

Proceeding
3rd International Nursing Conference
Community Health Empowerment: Step Up Action Attaining Sustainable Development Goals
Faculty of Nursing University of Jember
November 4-5, 2017 Royal Hotel Jember, East Java-Indonesia
ISBN: 976-602-5617-11-9

knowledge regarding anemia, behaviours, and side effect of that tablet (Handayani, 2013).

Beside iron supplement that required by pregnant women, protein is needed as well. Nur Agustian (2014) stated that the need protein during pregnancy during pregnancy was increase due to protein could prevent anemia. The main food source of protein is chicken and beef (Jantchou et al., 2010). However, majority of pregnant women were not aware to consume protein and iron supplement during pregnancy due to lack of knowledge regarding anemia.

Previous studies had been done to improve knowledge regarding anemia during pregnancy. Hodnett, Fredericks and Weston (2010) stated that family support could improve knowledge regarding anemia during pregnancy. Lau and Yin (2011) revealed that mother perception about anemia which came from pregnant women could influence to anemia during pregnancy. Therefore perception must be change to be better. In Indonesia, the program to improve Haemoglobin during pregnancy had been done by delivering iron supplement in every district and sub-district. However, it was not adequately done to improve knowledge and awareness of anemia. Therefore, this study aimed to evaluate the effect of mother perception and family support program on improving anemia knowledge among pregnant women in Banten Province.

METHODS
Design
A quasi-experimental study, pre-and post-test design with control group. The study was conducted at the Cikedal Public Health Center, Pandeglang, Banten Province, Indonesia.

Sample
The sample size was calculated based on the power analysis technique with a significance level of .05, power of .80, and the effect size (d) was .40. There were 95 participants who completed the study. The participants were recruited according to the following inclusion criteria: pregnant women with anemia, Trimester I and II, living with family and willingness to participate in the study. The participants were then divided into two groups: in the experimental group (47) to be subjects of the intervention, and a control group (48) to receive routine public health center care.

Data collection
1. A demographic data questionnaire, designed by the researchers, was used which consisted of age and educational level.
2. An Anemia Knowledge Questionnaire (AKQ) was designed by the researchers. This questionnaire onsisted of 20 questions. A correct answer was scored as 1 and an incorrect answer as 0. The higher score of this questionnaire indicated that the participants have better knowledge related to anemia during pregnancy.

Content validity and reliability
Once the tools were prepared, the content validity were ascertained by a panel of three experts in midwifery department, Universitas Nasional, Jakarta, who revised the tools for clarity, relevance, applicability, comprehensiveness, and ease to implementation. The agreement

Proceeding
3rd International Nursing Conference
Community Health Empowerment: Step Up Action Attaining Sustainable Development Goals
Faculty of Nursing University of Jember
November 4-5, 2017 Royal Hotel Jember, East Java-Indonesia
ISBN: 976-602-5617-11-9

percentage was between 80-100%. In light of their assessments, minor modifications were applied. The reliability of the AKQ was assessed in the present study, showing excellent reliability with a cronbach's alpha coefficient r = 0.88. The reliability test was conducted in Pandeglang Public Health Centre in Pregnant Women.

Description of the intervention

Official permission was requested from the dean of the Faculty of Health Sciences at Universitas Nasional, Jakarta, and the head of the Cikedal Public Health Center before conducting the study. Additional written consent was provided by the participants who participated, after receiving explanation of the purpose of the study. Furthermore, the aim of the study and the procedures were explained to the participants to obtain their cooperation in data collection. The study was implemented from December 2016 to September 2017. The data used were collected every day from the Cikedal Public Helath Center between 08:00 am to 15:00 pm. Patients were put into groups, each group including 5-7 participants. The study consisted of theoretical and practical sections. The theoretical section was implemented in seven sessions, each lasting 30 minutes. It included of definition of anemia in pregnant women, causes, manifestations, prognosis, and treatment. The practical section was implemented in eleven sessions, lasting 45 minutes. It included demonstrate to consume iron supplement and select the diet protein from foods. The total duration of the program was 44 weeks: ten weeks for the pre-program phase; five weeks for the theoretical section; and 20 weeks for the practical section. The collection of the follow-up data from the Cikedal Public Health Center took nine weeks. The program took the form of presentations and group discussions.

Patients received a program booklet, and an explanation from the researchers regarding its use. At the end of the program, its effectiveness was evaluated through a post-test performed for both groups, using the same data collection tools.

Data analysis

Descriptive statistics were used to analyze the demographic data questionnaire: Chi-square, and Independent t-test were used to examine the difference of characteristics between experimental group (EG) and control group (CG) at the baseline. The assumption of normality and homogeneity of variance of the variables have been conducted before determine the appropriate statistical analysis. The researchers used the Mann Whitney U for testing the differences of mean rank of the AKQ between the EG and CG before and after received the program.

RESULTS

Table 1 shows that most participants in the EG and CG were graduated from senior high school (24.63; 24.13), and most of them were aged 24.63 in the experimental group, and 24.13 in the control group.

Table 2 shows mean rank of the AKQ between the experimental group and control group before receiving the Mother Perception and Family Support Program showed no significance difference (p>.0.05). However, after receiving the program, the mean rank of the AKQ

Proceeding
3rd International Nursing Conference
Community Health Empowerment: Step Up Action Attaining Sustainable Development Goals
Faculty of Nursing University of Jember
November 4-5, 2017 Royal Hotel Jember, East Java-Indonesia
ISBN: 976-602-5617-11-9

showed significance difference between the experimental group and control group (p<0.05).

Table 1. Frequency and distribution of demographic characteristic for participants in both intervention and control group (n = 95)

Demographic characteristic	Experimental group (47)		Control group (48)		Statistic values	p
	n	%	n	%		
Educational level					6.57[a]	0.11
Elementary school	15	31.91	17	35.41		
Junior high school	9	19.14	8	16.67		
Senior high school	20	42.55	23	47.91		
Bachelor degree	5	10.63	3	6.25		
Age						
(*Min-Max* = 20 – 32 years)	*M*=24.63	*SD*=3.12	*M*=24.13	*SD*=3.20	1.22[b]	0.28

Chi-square[a], Independent *t*-test[b]

Table 2. Pre-test and post-test mean rank of the AKQ

Variable	Experimental group n = 47		Control group n_2 = 48		*Mann Whitney U*	p
	Mean rank	Sum of rank	Mean rank	Sum of rank		
AKQ						
Pre test	46.55	2188	49.42	2372	-0.85	0.39
Post test	55.77	2621	40.40	1939	-3.25	0.01

DISCUSSION

The aim of the study was to to evaluate the effect of mother perception and family support program on improving anemia knowledge among pregnant women. The majority of pregnant women included in this study were senior high school and the mean age of the participants was 24.63 in the experimental group and 24.13 in the control group.

The present study revealed that participants who received the Mother Perception and Family Support had better score in anemia knowledge. In this study, the improvement of knowledge related to anemia due to several reasons.

The first is due to the researchers provided a booklet. This booklet named "anemia during pregnancy booklet". It contained a lot of information regarding anemia. The researchers conducted the research during 3 months, and every week the researchers visited to the participants'

house to give the information by using this booklet. On the other hand, all the participants were active in discussion session. Therefore, their knowledge regarding anemia during pregnancy was improve. This evidence was similar with study that conducted by Hisni, Chinnawong, and Thaniwattananon (2017) revealed that booklet which used as a media to deliver information regarding any disease could improve the knowledge due to participants can read and practice in their daily lives based on the information from booklet. Furthermore, although a quantitative measurement was not taken, the participants' who received the booklet during the program reported that it was useful to them in regards to their daily lives as well as improved their knowledge. It has been found that written guidelines was effectively improved patients' knowledge (Melchior et al., 2010).

Proceeding
3rd International Nursing Conference
Community Health Empowerment: Step Up Action Attaining Sustainable Development Goals
Faculty of Nursing University of Jember
November 4-5, 2017 Royal Hotel Jember, East Java-Indonesia
ISBN: 976-602-5617-11-9

The second reason for improving knowledge score is due to come from the family support. Family support is the main role for pregnant women to aware for preventing anemia. In this study, family support comes from their husband. The roles of them are as a reminder the participants to consume iron supplement and eat much protein. This finding was similar with a previous study was conducted by Wills et al. (2012) concluded that family support could assist the patient to more obedient in term of medication, behaviours, knowledge, and attitude. Family support especially their spouse is a person who deeply understand related to patients' condition.

The third reason is come from mother perception program. It is a perception which come from the pregnant women about anemia. By giving information properly regarding anemia, the participants would more understand about anemia and they would follow the behaviours including consume iron supplement and eat much protein to prevent anemia during pregnancy This finding was similar with a previous study that a better perception about any condition including anemia would impact on a better behaviours and knowledge (Herrera-deGuise et al., 2016).

The last reason was due to the researchers conducted follow-up periodically to the participants. By this manner, the researchers more understanding about participants' knowledge in which part that the participants' still not understanding regarding anemia during pregnancy. This revealed was similar with a previous study stated that by using this method could improve influence the patients' confidence and expectations to change and maintain positive behaviors and knowledge. Intervention using face to face follow-up was effective in improving knowledge (Eakin et al., 2007; Fan & Sidani, 2009).

CONCLUSION

In light of the current study results, the Mother Perception and Family Support Program showed an improvement knowledge regarding anemia during pregnancy among pregnant women in Pandeglang Distric, Banten Province.

REFERENCES

Alem, M., Enawgaw, B., Gelaw, A., Kena, T., Seid, M., & Olkeba, Y. (2013). Prevalence of anemia and associated risk factors among pregnant women attending antenatal care in Azezo Health Center Gondar town, Northwest Ethiopia. *J Interdiscipl Histopathol*, *1*(3), 137-144.

Chen, M.H., Su, T.P., Chen, Y.S., Hsu, J.W., Huang, K.L., Chang, W.H., Chen, T.J., & Bai, Y.M. (2013). Association between psychiatric disorders and iron deficiency anemia among children and adolescents: a nationwide population-based study. *BMC Psychiatry. 2013 Jun 4;13:161. doi: 10.1186/1471-244X-13-161*. Diunduh dari http://www.ncbi.nlm.nih.gov/pubmed/23735056

Eakin, E. G., Bull, S. S., Riley, K. M., Reeves, M. M., McLaughlin, P., & Gutierrez, S. (2007). Resources for health: a primary-care-based diet and physical activity intervention targeting urban Latinos with multiple chronic conditions. *Health Psychology*, *26*, 392. doi:org/10.1037/0278-6133.26.4.392

Proceeding
3ʳᵈ International Nursing Conference
Community Health Empowerment: Step Up Action Attaining Sustainable Development Goals
Faculty of Nursing University of Jember
November 4-5, 2017 Royal Hotel Jember, East Java-Indonesia
ISBN: 976-602-5617-11-9

Fan, L., & Sidani, S. (2009). Effectiveness of diabetes self-management education intervention elements: a meta-analysis. *Canadian Journal of Diabetes*, *33*, 18-26. doi:10.1016/S1499-2671(09)31005-9

Fuady, M. (2013). Hubungan Pengetahuan Ibu Hamil tentang Anemia Defisiensi Besi terhadap Kepatuhan Mengkonsumsi Tablet Zat Besi. *e-jurnal Fakultas Kedokteran USU*, *1*(1).

Haider, B. A., Yakoob, M. Y., & Bhutta, Z. A. (2011). Effect of multiple micronutrient supplementation during pregnancy on maternal and birth outcomes. *BMC public health*, *11*(3), S19.

Handayani, L. (2013). Peran petugas kesehatan dan kepatuhan ibu hamil mengkonsumsi tablet besi. *Kes Mas: Jurnal Fakultas Kesehatan Masyarakat*, *7*(2).

Herrera-deGuise, C., Casellas, F., Robles, V., Navarro, E., & Borruel, N. (2016). Iron deficiency in the absence of anemia impairs the perception of health-related quality of life of patients with inflammatory bowel disease. *Inflammatory bowel diseases*, *22*(6), 1450-1455.

Hisni, D., Chinnawong, T., & Thaniwattananon, P. (2017). The effect of Cardiovascular Self-Management Support Program on Preventing Cardiovascular Complications Behaviors in Elderly with Poorly Controlled Type 2 DM in Indonesia. *Walailak Journal of Science and Technology (WJST)*, *14*(12).

Hodnett, E. D., Fredericks, S., & Weston, J. (2010). Support during pregnancy for women at increased risk of low birthweight babies. *The Cochrane Library*.

Jantchou, P., Morois, S., Clavel-Chapelon, F., Boutron-Ruault, M. C., & Carbonnel, F. (2010). Animal protein intake and risk of inflammatory bowel disease: The E3N prospective study. *The American journal of gastroenterology*, *105*(10), 2195.

Lau, Y., & Yin, L. (2011). Maternal, obstetric variables, perceived stress and health-related quality of life among pregnant women in Macao, China. *Midwifery*, *27*(5), 668-673.

Manuaba, I.B.G. (2010). *Kapita Selekta Penatalaksanaan Rutin Obstetri Ginekologi dan Keluarga Berencana*. Jakarta: EGC

Melchior, L., Carter, B., Helsley, A., Ernest, J. K., & Friesner, D. (2010). The diabetes disease state management exemplar. *Nursing Economics*, *28*(1), 7. Retrieved from: http://search.proquest.com/docview/236966110?pq-origsite=gscholar

Nur Agustian, E. (2010). *Hubungan antara asupan protein dengan kekurangan energi kronik (KEK) pada ibu hamil di kecamatan Jebres Surakarta* (Doctoral dissertation, UNS).

Vlemmix, F., Warendorf, J. K., Rosman, A. N., Kok, M., Mol, B. W. J., Morris, J. M., & Nassar, N. (2013). Decision aids to improve informed decision- making in pregnancy care: a systematic review. *BJOG: An International Journal of Obstetrics & Gynaecology*, *120*(3), 257-266.

Wills, T. A., Ainette, M. G., Baum, A., Revenson, T., & Singer, J. (2012). 20 Social Networks and Social Support. *Handbook of health psychology*, 465.

Proceeding
3ʳᵈ International Nursing Conference
Community Health Empowerment: Step Up Action Attaining Sustainable Development Goals
Faculty of Nursing University of Jember
November 4-5, 2017 Royal Hotel Jember, East Java-Indonesia
ISBN: 976-602-5617-11-9

Wuryanti, A. (2010). *Hubungan anemia dalam kehamilan dengan perdarahan postpartum karena atonia uteri di RSUD Wonogiri*(Doctoral dissertation, UNS)